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MORTAL FRAMES:
EMBRACING ARCHITECTURAL TRANSIENCE
AND THE LIVING BODY OF STRUCTURES

Georgia Pope

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MORTAL FRAMES: EMBRACING ARCHITECTURAL TRANSIENCE AND THE LIVING BODY OF STRUCTURES

Georgia Pope

Since the publication of Vitruvius's *Ten Books on Architecture* (20-30 BCE), architects and theorists have shared a longstanding tradition of comparing buildings and the human body. This analogy between two seemingly disparate entities serves as a testament to the intrinsic connection between architecture and human experience, with architecture being representative of the humanistic tradition. Over time, architecture, akin to a living organism, undergoes a profound journey from inception to eventual dissolution. This inherent mortality shapes the way that buildings are conceived, constructed and perceived, influencing their sustainability and cultural significance.

Architecture, far from a static entity, emerges as a dynamic force that breathes life into the spaces we inhabit. Yet, woven into its creation is an inherent mortality – an acknowledgement that all architecture, regardless of its grandeur or endurance, is subject to the passage of time. Just as the human body evolves and eventually succumbs to time, architecture undergoes a similar journey. This realisation underscores the delicate balance between permanence and impermanence within the built environment, a theme analysed in this paper through the contexts of time and space, sustainability and cultural relevance. By examining sustainability through the lens of “cradle-to-cradle” philosophy and exploring Māori architecture as an illustrative example, this paper reveals architecture’s inherent adaptability and capacity for renewal. Additionally, an exploration into time and space through the weathering process deepens the understanding of architecture’s relationship with mortality and the interconnectedness between human experience and the environment.

Time, often perceived as an ever-present force, serves as a poignant reminder of human mortality and the impermanence of all things. Our experiences, memories and surroundings, including the structures that envelop us, contribute to our comprehension of time and mortality. Just as time leaves its indelible mark on our lives, shaping our experiences and inevitably leading to our mortality, it also leaves its mark on the physical realm. This phenomenon becomes apparent through the gradual weathering of structures, where the relentless passage of time manifests in the erosion of stone, the fading of paint and the gradual decay of materials. Architecture, serving as both shelter and sanctuary, offers a semblance of stability and familiarity in an uncertain world; through the process of weathering, buildings also reflect the impermanence of human existence and the inevitability of decay.

In their seminal work, *On Weathering: The Life of Buildings in Time*, Mohsen Mostafavi and David Leatherbarrow delve into the intricate relationship between time, weathering and architecture. Their insights illuminate how our perception of time, shaped by materiality, informs our understanding of architecture and influences our interactions with the built environment. Despite the perceived solidity and permanence of Western architecture, Mostafavi and Leatherbarrow assert its inherent temporality, vulnerable to passing time and the transformative effects of weathering.² They eloquently capture this notion by stating that “finishing ends construction, weathering constructs finishes.”³ Through the gradual process of weathering, buildings acquire character, depth and a patina of age that enriches their beauty and resilience.

Challenging the conventional belief in architectural permanence, Mostafavi and Leatherbarrow advocate for a deeper appreciation of the beauty that emerges through natural processes and the passage of time. They align their understanding of time with a phenomenologist's perspective, emphasising "time as lived" rather than a mere representation. Rejecting the notion of time as a series of discrete moments, they propose that the time of weathering encompasses both spatial and experiential dimensions, transcending the strict measurements of clocks and calendars and unfolding as a narrative within the natural world.⁴ This process liberates time from the constraints of linear progression, such as the cradle-to-grave model, allowing for a more fluid and renewable narrative. In embracing this dynamic understanding of time, Mostafavi and Leatherbarrow invite us to reconsider our relationship with the built environment, encouraging a deeper engagement with the ever-changing narrative within architectural spaces.

In Māori culture, time and space are not perceived as linear or separate entities, but rather interconnected dimensions that shape the fabric of existence. The Māori conception of time embodies a holistic understanding of the universe as a dynamic and interdependent system. In contrast to the Western perspective of time as linear, in te ao Māori time is viewed as cyclical, with past, present and future existing simultaneously in a continuous sequence of renewal and regeneration. Similarly, birth, growth, death and rebirth are recognised as connected phases within an enduring cycle. This relationship between time, space and the natural environment is deeply intertwined with the concept of weathering and decay in Māori architecture. In Māori culture, weathering and decay are not regarded as signs of deterioration, but as natural processes that often contribute to the evolution and adaptation of architectural structures over time – a notion contrasting with the Western view of architecture where built structures are seen as isolated, static entities.⁵

In traditional Māori architecture, particularly in the whareniui or carved meeting house, the weathering of materials and the gradual decay of the structure are embraced as reflections of the passage of time and the interconnectedness of humans, nature and the spiritual realm. Rather than resisting the effects of weathering, Māori incorporate these processes into the design of the whareniui, allowing it to age gracefully and develop a patina of cultural significance.⁶ This integration of weathering reinforces the notion of continuity and renewal, echoing the cycles of growth, decay and regeneration. Furthermore, the concept of whakapapa (genealogy) is reflected in the entropy of Māori buildings, as each layer of weathered materials bears witness to the history, lineage and cultural identity of the community. The carvings and adornments that embellish the whareniui serve as tangible expressions of whakapapa, connecting past, present and future generations in an unbroken chain of cultural continuity.⁷

Just as time and weathering are integral aspects of architecture's lifecycle, sustainability is deeply intertwined with the concept of renewal and regeneration. Understanding how architecture evolves and adapts over time offers insight into its inherent capacity for sustainability and its potential to positively impact the environment. This holistic perspective underscores the importance of considering architecture's lifecycle from conception to renewal, aligning temporal and sustainable dimensions. However, the pressing need to protect and restore natural ecosystems amid climate change, urbanisation and habitat destruction challenges traditional architectural methods.⁸ Today, sustainability in architecture often falls short as a sufficient measure for current and future architectural design. Merely striving to make buildings 'less bad' is an inadequate objective; current construction standards place minimal emphasis on environmental considerations, with the bar for what qualifies as 'sustainable' set unreasonably low.⁹

When examining mortality in architecture within the context of sustainability, the cradle-to-cradle philosophy – a cyclical systematic approach to sustainable design – emerges as a pivotal departure from the traditional perception of buildings as static, finite structures. This paradigm, pioneered by architect William McDonough and engineer Michael Braungart in the 1990s, draws a direct connection between the broader concept of mortality and lifecycle processes. It challenges traditional construction practices through exploring a new and more dynamic, regenerative architecture lifecycle. The core of the cradle-to-cradle philosophy lies in its emphasis on transforming the perception of buildings as short-lived, disposable assets into enduring, dynamic components of a larger ecological system. McDonough and Braungart highlight the linear trajectory of traditional construction practices, where buildings

follow a path from creation – the cradle – to their end of life and demolition – the grave – contributing to significant building and construction waste. However, their philosophy re-imagines this cycle by promoting the idea that a building can in a sense be reincarnated, providing valuable materials for new structures and contributing to a sustainable, continuous lifecycle.¹⁰

The cradle-to-cradle philosophy represents a radical departure from conventional Western architectural approaches, which often perceive architecture as disposable. McDonough and Braungart's philosophy advocates for a fundamental rethinking of our relationship with the built environment and necessitates a shift from the traditional linear model of "take–make–waste," which perpetuates a cycle of resource depletion and environmental degradation.¹¹ Instead, cradle-to-cradle advocates for a cyclical and regenerative approach, where the concept of waste is fundamentally challenged. Central to this shift is the design of architecture that is inherently adaptable and sustainable. Rather than viewing buildings or materials as static entities with a finite lifespan, the cradle-to-cradle philosophy emphasises the creation of structures that can be easily dismantled, repurposed or biodegraded at the end of their lifecycles. This approach fosters a closed-loop system, where waste is minimised, and materials are continuously cycled back into the new production processes and therefore never actually 'die.' This shift towards adaptable and sustainable design acknowledges the finite nature of materials and resources, echoing the impermanence inherent in all living things.

To take a pertinent example, architect David Loughlin's Great Barrier House (on Great Barrier Island, New Zealand), although not officially certified with cradle-to-cradle status, embodies the essence of this philosophy by showcasing a low-impact and off-grid approach to sustainable architecture. By using reclaimed raw timbers selected for their rapid renewability and capacity to re-integrate into the forest ecosystem, the house generates no lasting waste. Its design enables effortless dismantling, relocation or repurposing in new projects, thereby minimising environmental impact. This structure serves as a vivid illustration of the cyclical nature of building materials – a poignant reflection of architectural mortality. It exemplifies the potential for sustainable design in permanent buildings, emphasising renewable resources, minimal carbon emissions and material recycling, while revealing an approach that echoes the lifecycle principles essential for enduring, environmentally conscious architecture.¹²

This concept of cyclical regeneration of materials echoes the sustainable principles that are deeply rooted in Māori culture. While cradle-to-cradle may appear novel in Western perspectives and practices, its principles of renewal and regeneration align closely with the enduring ethos of sustainability present in traditional Māori architecture, as discussed above. Just as the cradle-to-cradle philosophy promotes the continuous reuse and regeneration of materials, Māori architecture has long embraced a similar ethos, recognising the importance of preserving resources for future generations through mindful stewardship of the land and its materials.

In his examination of traditional Māori architectural practices, writer and theorist Bill McKay highlights the intrinsic sustainability found in Māori architecture, and particularly the whareniui. McKay delves into the parallels between the cyclical nature of life and architectural structures, echoing the core theme of the cradle-to-cradle philosophy. From a Māori perspective, buildings traverse cycles similar to those of human life, commencing with careful construction similar to a child's birth – marking the initial phase. Over time, these structures, like human life, bear the marks of aging and wear. This analogy between architectural structures and the human body, both subjected to the cycles of growth, aging and decay, encapsulates the essence of life's transience. It hints at the inevitable processes of birth, life's fleeting moments and eventual decay that reverberate through time-bound edifices, serving as a poignant reminder of our mortality.¹³

In contrast to the Western perspective where buildings are seen as static entities, whareniui are perceived as evolving, living entities intricately linked to a larger ecological system, returning cyclically to their origins. Metaphorically, the whareniui stands as an embodiment of a tribe's founding ancestor, a foundation of Māori tradition pivotal in comprehending architecture through a Māori lens. In many respects, the whareniui is a living entity, intricately woven with elements that reflect both the essence and the embodied form of the ancestor it represents, whereby each component serves as a manifestation of cultural heritage and spiritual significance.¹⁴ During construction, each new

component's integration with existing parts is celebrated and blessed, illustrating the concept of interconnectedness as crucial to the whareni's functionality, akin to the harmony within a living body. Should one component fail to fulfil its role, the structure's collapse becomes inevitable.

Embodying the Māori belief in embracing the natural world's forces rather than resisting them allows for indigenous architecture to evolve with time. This is exhibited in the transformation of whareni throughout their lifecycle, whereby these buildings, as living entities, are subject to continual renewal and regeneration to ensure their ongoing spiritual and functional relevance. The choice of natural materials for construction – such as timber, flax and other locally sourced materials – necessitates ongoing reconstruction to stave off decay, providing an ongoing opportunity to practice and transmit construction skills to future generations.¹⁵ Conceptually and pragmatically, death and degradation are regarded as a transition to the spiritual realm rather than as an endpoint. While this approach may be perceived as mere 'building maintenance' in Western culture, from a Māori perspective it reflects a deep understanding of architecture as a dynamic process of adaptation and sustainability. This ethos aligns closely with the cradle-to-cradle philosophy, which emphasises the cyclicity of resources and materials and promotes their continuous reuse and regeneration. We also see this concept embraced through the values aligned with Māori architecture – in particular, kaitiakitanga or mindful stewardship – which supports the preservation of materials for future generations through ongoing reconstruction and adaptation.

In the exploration of architectural mortality, a profound interweaving emerges, entangling the lifecycles of structures with the pivotal facets of sustainability and cultural values. This exploration of the transience of architecture reveals a fundamental truth: buildings, akin to living entities, navigate a trajectory from creation to eventual death. Yet, within this cyclical process there resides a treasury of wisdom that reshapes contemporary architectural paradigms. The comprehension of architectural mortality serves as a guiding principle for redefining our relationship with the built environment. It illuminates the path towards sustainable architectural practices, cultural reverence and respect for time and aging. Three pivotal perspectives converge to impart invaluable insights into the nature of architectural transience.

Sustainability, as epitomised by the cradle-to-cradle philosophy, beckons architects to reimagine buildings as dynamic components within a broader ecological framework. The pioneering approach of McDonough and Braungart reframes structures as perpetual contributors to a closed-loop system, echoing life's cyclical nature. Their philosophy champions regenerative cycles and minimal waste, catalysing a shift towards a responsible and enduring architectural landscape. Māori culture embodies profound cultural values intertwined with a cyclical philosophy of sustainability, fostering renewal and revitalisation. Embracing cyclical existence, it emphasises sustainability and cultural interconnectedness, providing profound lessons for architectural practice.

Within the rhythm of architectural mortality lies a testament to human resilience, ingenuity and the pursuit of spaces that not only provide shelter, but also inspire and provoke contemplation. This cyclical journey of creation, existence and dissolution is not merely a narrative of decay, but a testament to adaptability, regeneration and the intrinsic connection between humanity, the spaces we inhabit and our natural environment.

Ultimately, exploring architectural mortality unravels an enduring reality: architecture, transient by nature, should mirror life's cyclical essence. Embracing this impermanence encourages respect for ephemeral beauty, fosters sustainable practices honouring nature and imbues architecture with cultural significance.

Georgia Pope is a Master of Architecture student with three years of professional experience. She earned a Bachelor of Architectural Studies from Otago Polytechnic in 2021. Currently, her thesis focuses on low-impact architecture for Te Nohoaka o Tukiaua / Sinclair Wetlands. This research bridges indigenous Māori knowledge with contemporary architecture to promote cultural preservation, ecological sustainability, and community empowerment.

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